

REMARKS

Applicant is in receipt of the Office Action mailed September 8, 2006. Claim 45 has been amended. Claims 1-7, 9-37, 39-59, 61-74, and 76-90 are pending in the present case. Reconsideration of the present case is earnestly requested in light of the following remarks.

Claim Amendments

Claim 45 has been amended to correct a minor error of omission.

Section 103 Rejections

Claims 1-16, 21-37, 39-43, 45-59, 61-65, 67-74, and 76-90 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,862,372 to Morris et al. (“Morris”), and EP Publication No. 0510514 A1 (Oka et al., “Oka”). Applicant respectfully disagrees.

Applicant respectfully notes “To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974)” MPEP §2143.03 (*emphasis added*). Applicant respectfully submits that all the features and limitations of claim 1 are not taught or suggested by the prior art.

Claim 1 recites:

1. A method of creating a graphical program to perform an algorithm, the method comprising:

recording one or more functions in response to user input, wherein the one or more functions specify the algorithm; and

automatically generating the graphical program in response to the recorded one or more functions, wherein the graphical program comprises a plurality of interconnected nodes which visually indicate functionality of the graphical program, wherein the graphical program implements the algorithm;

wherein said automatically generating the graphical program comprises automatically including the nodes in the graphical program, wherein said automatically including the nodes in the graphical program is performed without direct user input selecting the nodes.

As the Office Action admits, Morris fails to teach or suggest automatically generating a graphical program, including automatically including nodes in the graphical program without direct user input selecting the nodes. More specifically, Morris teaches “the user of the system drags an object into the view. The system simultaneously generates the underlying script which reflects the object and the properties associated with the object” (Morris col. 6, lines 23-26) (*emphasis added*). The previous Office Action specifically states, “Morris does not disclose that user input does not use the selection of the nodes. [sic]”

The Office asserts that Oka remedies this admitted deficiency of Morris, citing col.1:20-26, which reads:

It is an object of the present invention to **automatically draw a flow chart as a graphic representation of data processing contents** in accordance with definition information defining the data processing contents, thereby allowing easy understanding of the data processing contents. (*emphasis added*)

As the cited text makes clear, Oka is directed to automatically generating a *flowchart* that graphically represents data processing contents, not a graphical program (which, being a program, is by definition executable to perform some specified functionality). Oka further clarifies this aspect of Oka’s invention in col.1:47-col.2:12, which describes the system for automatically generating the flowchart:

e) forming means for, in response to a start of flow chart formation, forming processing block patterns by adding the names of the units of processing to the basic block pattern in the respective units of processing stored in said processing sequence storage means; and (f) output means for sequentially connecting the processing block patterns, formed in accordance with the respective units of processing stored in said processing sequence storage means, in accordance with the sequence stored in said processing sequence storage means, and **outputting the resultant block patterns on a recording paper sheet**.

According to the present invention, since **a flow chart graphically representing a processing outline can be automatically drawn, there is no need to output a program list or manually draw a flow chart** as in the prior art. That is, a flow chart which can be understood by anybody can be very easily obtained. Especially, if sets of graphic patterns are formed or processing flow charts are graphically drawn in units of processing, the resultant **illustration** is easier to understand. (*emphasis added*)

Applicant respectfully submits that the Office Action has mischaracterized Oka, and notes that the product of Oka's method is not a graphical program, but rather, a flowchart, specifically, a printout of a flowchart that *illustrates* the specified data processing process. As the cited text describes, Oka's system and method automatically generate the flowchart using connected block patterns that represent or illustrate block units of processing, which are themselves (the block units of processing) stored in processing sequence storage means. These block patterns are simply standard graphical flowchart shapes used to represent various steps or processes, specifically the block units of processing, e.g., as shown in Figure 22 of Oka, and are specifically *not* graphical program nodes. The automatically generated flowchart is nowhere described as being a program. In direct contrast, Applicant respectfully notes that per Applicant's disclosure (e.g., p.33, line 7, and elsewhere) and dependent claims 10 and 62, Applicant's automatically generated graphical program is *executable*. Moreover, as noted above, programs are executable, while flowcharts are illustrative, and are *not* executable, as is known to those of skill in the art of programming.

Applicant also respectfully submits that there is no teaching, suggestion, or motivation to combine Morris and Oka in either of the references or in the prior art. As held by the U.S. Court of Appeals for the Federal Circuit in *Ecolchem Inc. v. Southern California Edison Co.*, an obviousness claim that lacks evidence of a suggestion or motivation for one of skill in the art to combine prior art references to produce the claimed invention is defective as hindsight analysis.

Furthermore, the showing of a suggestion, teaching, or motivation to combine prior teachings "must be clear and particular. . . Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence'." *In re Dembiczak*,

175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). The art must fairly teach or suggest to one to make the specific combination as claimed. That one achieves an improved result by making such a combination is no more than hindsight without an initial suggestion to make the combination.

Applicant notes that the motivation to combine suggested by the Office Action is not proper. For example, the Office Action asserts that both Morris and Oka are directed to automatically generating a graphical program, which, as shown above, is not the case, since Oka is specifically directed to automatically generating a flowchart, which is not a graphical program. Applicant further notes that Morris nowhere suggests or even hints at the desirability of automatically generating a graphical program without user input selecting the nodes. Nor is Oka directed to graphical programs, nor automatic generation of graphical programs, as shown above, and so Oka is not relevant art with respect to the present application. Thus, Morris and Oka cannot properly be combined to form a prima facie case of obviousness. Moreover, even were Morris and Oka properly combinable, which Applicant argues they are not, the resulting combination would not produce the features of at least claims 1, 31, 53, 71, 81, and 90.

Thus, Oka fails to remedy this admitted deficiency of Morris, and so, for at least the reasons provided above, Morris and Oka, taken singly or in combination, fail to teach or suggest all the features and limitations of claim 1, and so claim 1 and those claims dependent therefrom are patentably distinct and non-obvious over the cited art, and are thus allowable.

Independent claims 31, 53, 71, 81, and 90 include similar limitations as claim 1, and so the above arguments apply with equal force to these claims. Thus, for at least the reasons provided above, Applicant submits that claims 31, 53, 71, 81, and 90, and those claims respectively dependent therefrom, are patentably distinct and non-obvious over the cited art, and are thus allowable.

Regarding the Examiner's Response to Arguments, Applicant respectfully submits the following:

Regarding claims 2 and 54, specifically, the limitation "...performing the one or more functions in response to user input..." and "...wherein said recording the one or

more functions is performed in response to said performing the one or more functions” as recited by claim 2, the Examiner states that “the user dragging and dropping” is interpreted as a processing function carried out in association with the program. Applicant notes that “dragging and dropping” are not recited in the claim, and respectfully submits that the Examiner has improperly attempted to redefine “function” as claimed. For example, claim 1 recites “recording one or more functions in response to user input, wherein the one or more functions specify the algorithm”...and “wherein the graphical program implements the algorithm”. Clearly, the functions are performed “in response to user input”, and thus are not, and cannot be, the user input itself. Additionally, claim 2 recites “performing the one or more functions in response to user input”. In other words, as the claim makes clear, the performed functions *specify the algorithm*, and are specifically *not* the user input itself. Applicant notes that if the functions were the user input, then the claim would instead read “recording user input”, which it doesn’t. Rather, the *functions* are recorded and performed.

Moreover, the Specification clearly supports this notion.

On p.6:7-11, the Specification states:

The prototype may comprise a series of functions that form an algorithm or process. As an example, an image processing prototyping environment may be utilized to create a series of image processing operations, e.g., to select a series or set of machine vision or image processing tools, that may be applied to an image in order to analyze the image, e.g., in order to count the number of objects of a certain shape which appear in the image. (*emphasis added*)

Thus, the functions are not the user’s input. Applicant respectfully submits that there is a substantial difference between recording a function that is specified by user input, and recording the user input. Thus, Applicant respectfully submits that the cited art fails to teach this limitation of claim 2 and claim 54, and so claims 2 and 54 are patentably distinct and non-obvious over the cited art, and are thus allowable, for at least the reasons provided above.

Regarding claims 11, 40, and 63, the Examiner asserts that the claimed “user interface panel portion” of the graphical program can be interpreted as any of Morris’s panels that represent the nodes or functions within the block diagram, citing Figure 5.

Applicant respectfully disagrees. The various panels of Figure 5 are not part of the graphical program, but rather, are views provided by the development environment (authoring system) of Morris. As Morris states in col.6:15-20:

FIG. 5 shows for a simple program all four views, Output, Map, Multitrack, and Workform simultaneously displayed in separate windows. In each view, the system of this invention permits development of the application using the same method of adding an object, interconnecting the object, and setting the objects properties.

And further in col.5:39-40:

The four views are different ways to make and look at the same script.

Thus, per Morris, the “panels” cited by the Examiner are part of the development system, not part of a graphical program.

Thus, the cited art fails to teach or suggest this feature of claims 11, 40, and 63, and so these claims are patentably distinct and non-obvious over the cited art, and are thus allowable.

Regarding claims 22, 23, 46, and 47, the Examiner asserts that Morris discloses “wherein the code generation information specifies a type of graphical program to create in response to the recorded one or more functions; wherein the graphical program is created in accordance with the specified graphical program type”, as recited in claim 22. More specifically, the Examiner asserts that if Morris’s graphical objects are presented in different layouts or formats, this means that different types of graphical programs are specified and created. Applicant respectfully submits that this is incorrect, and that simply changing the layout or format of the objects in the view in no way generates a graphical program of a different type.

Applicant notes that the Specification, on p.31:19-25, presents a list of different development environments for creating programs of different types:

Figure 16 illustrates a user interface for receiving information specifying a program type to create. A selectable list of various programming development environments is shown. In the embodiment shown in Figure 16, the list includes a graphical programming development environment, LabVIEW, as well as various text-based programming environments, including LabWindows/CVI, Microsoft Visual Basic, and Microsoft Visual C++. In alternative embodiments, any of various other graphical or

text-based programming languages or development systems may be supported.

Clearly, program type is a more substantial concept than simply the format or layout of program elements, otherwise, just about any program written would be considered a unique program type, which is not the accepted meaning of the word in the programming arts.

Thus, the cited art fails to teach or suggest this feature of claims 22, 23, 46, and 47, and so these claims are patentably distinct and non-obvious over the cited art, and are thus allowable.

Regarding claims 24, 48, and 69, the Examiner states “the program operation is determined to be during any time of the creation, where involving processing of the program, where user input is occurring”. Applicant is unsure just what is meant by this statement, but respectfully notes that per Morris, the script development environment is separate and distinct from the script runtime engine, as disclosed in the Abstract:

The system generates as output a script listing the objects and their properties which is then executed by a separate run time program.

Applicant further notes that the cited text of Morris (col.6:26-29) discloses interactively specifying or modifying parameters in the authoring stage, i.e., in the development environment, not at runtime, i.e., not “during program operation”.

Thus, the cited text fails to disclose “wherein said automatically generating the graphical program comprises enabling the graphical program to receive user input during program operation, wherein the user input specifies values for the specified one or more input parameters”, as well as “wherein said automatically generating the graphical program comprises enabling the graphical program to display output during program operation, wherein the output indicates values for the specified one or more output parameters”, as recited in claim 24.

Thus, for at least these reasons, Applicant respectfully submits that the cited art fails to teach or suggest all the features and limitations of claims 24, 48, and 69, and so claims 24, 48, and 69 are patentably distinct and non-obvious over the cited art, and are thus allowable.

Removal of the section 103 rejection of claims 1-16, 21-37, 39-43, 45-59, 61-65, 67-74, and 76-90 is earnestly requested.

Claims 17-20, 44, and 66 were rejected under 35 U.S.C. 103(a) as being unpatentable over Morris and Oka, and further in view of U.S. Patent No. 5,623,659 to Shi et al. (“Shi”). Applicant respectfully disagrees.

Applicant respectfully notes “If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)” as stated in the MPEP §2143.03. Accordingly, Applicant respectfully submits that since the respective base claims of claims 17, 44, and 66 (i.e., claims 1, 31, and 53) were shown above to be patentably distinct and non-obvious, these claims are similarly patentably distinct and non-obvious, and thus allowable.

Regarding the Examiner’s Response to Arguments, Applicant respectfully submits the following:

Regarding claim 17, the Examiner asserts admits that Morris and Oka fail to teach or suggest “locking the association between the script and the graphical program, wherein said locking prevents user editing of the graphical program”, but asserts that Shi remedies this admitted deficiency of Morris and Oka. Applicant respectfully disagrees.

Shi discloses locking data sets, and nowhere discusses locking an association between a script and a graphical program to prevent user editing of the graphical program. Applicant respectfully submits that locking a data set is not the same as locking an association between a script and a graphical program automatically generated from the script. Thus, Shi fails to remedy this admitted deficiency of Morris and Oka.

Moreover, since Shi is not even directed to graphical programs at all, nor locking programs, Applicant submits that Shi may not be properly combined with Morris and Oka to make a prima facie case of obviousness.

Thus, for at least these reasons, Applicant respectfully submits that the cited art fails to teach or suggest all the features and limitations of claim 17, and so claim 17 is patentably distinct and non-obvious over the cited art, and is thus allowable.

Removal of the section 103 rejection of claims 17-20, 44, and 66 is earnestly requested.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-44300/JCH.

Respectfully submitted,

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